

Title (en)

Layered rock salt-type oxide particle powder and process for producing the same

Title (de)

Pulverschicht mit Oxydteilchen aus Steinsalz und Verfahren zur Herstellung

Title (fr)

Poudre avec une couche de particules d'oxyde de type sel gemme et son procédé de fabrication

Publication

**EP 1041041 A1 20001004 (EN)**

Application

**EP 00107026 A 20000331**

Priority

JP 9099999 A 19990331

Abstract (en)

The present invention provides a lithium nickel-layered rock salt-type oxide particle powder, a lithium cobalt-layered rock salt-type oxide particle powder or a particle powder of a solid solution of these layered rock salt-type oxides, wherein the surface of the particle is rendered hydrophobic by coating it with a coupling agent having both a hydrophobic group and a hydrophilic group. The layered rock salt-type oxide particle powder is free of an adverse effect caused by adsorbed water because of less amount of water adsorbed on the surface of the particle powder, high in electrochemical charging and discharging capacities, low in cycle deterioration, so that it is especially useful as a positive electrode active material in a lithium battery.

IPC 1-7

**C01G 51/04; C01G 53/04; H01M 4/52; H01M 4/62**

IPC 8 full level

**C01G 51/00** (2006.01); **C01G 53/00** (2006.01); **H01M 4/36** (2006.01); **H01M 4/525** (2010.01); **H01M 4/58** (2006.01); **H01M 4/62** (2006.01)

CPC (source: EP US)

**C01G 51/42** (2013.01 - EP US); **C01G 53/42** (2013.01 - EP US); **C01P 2002/20** (2013.01 - EP US); **C01P 2002/50** (2013.01 - EP US);  
**C01P 2004/84** (2013.01 - EP US); **C01P 2006/10** (2013.01 - EP US); **C01P 2006/11** (2013.01 - EP US); **C01P 2006/40** (2013.01 - EP US);  
**C01P 2006/60** (2013.01 - EP US); **C01P 2006/82** (2013.01 - EP US); **Y10T 428/2991** (2015.01 - EP US); **Y10T 428/2993** (2015.01 - EP US);  
**Y10T 428/2995** (2015.01 - EP US)

Citation (search report)

- [A] EP 0652602 A2 19950510 - SUMITOMO CHEMICAL CO [JP]
- [A] EP 0867408 A1 19980930 - TODA KOGYO CORP [JP]
- [A] EP 0794586 A1 19970910 - SHARP KK [JP]
- [A] PATENT ABSTRACTS OF JAPAN vol. 014, no. 255 (E - 0935) 31 May 1990 (1990-05-31) & DATABASE WPI Section Ch Week 199017, Derwent World Patents Index; Class L03, AN 1990-127579, XP002143949

Cited by

KR20190139514A

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

**EP 1041041 A1 20001004**; JP 2000281354 A 20001010; US 6337132 B1 20020108

DOCDB simple family (application)

**EP 00107026 A 20000331**; JP 9099999 A 19990331; US 53822700 A 20000330